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ABSTRACT

This paper discusses four key concepts to help preschool and primary grade children develop the ability to read and understand maps. Examples of student activities to develop each of the concepts are provided. The essential concepts are representation, symbolization, perspective, and scale. Representation is vital. Children must perceive that a map represents something else--a place. Block building provides an excellent opportunity for young children to develop an understanding of representation. By using non-thematic blocks, children can create with the blocks, the entity of their choice. Second, children need to know that a map is a symbol for a place that it uses other symbols such as colors for land and water and lines for roads and highways. Three activities to increase the understanding that a symbol represents a real or actual thing are "Lotto Match" in which children pair three dimensional items to two dimensional drawings of the same thing; having children write experience stories using pictures from magazines or drawings; and the game "Symbo" played like bingo in which children designate the correct sign for a river, desert, airport, school, and other map legend symbols. Perspective, the third essential, is difficult for young children and may not be fully developed until later. However, a foundation for future understanding can be provided. Children should be given many opportunities to view objects from above by taking field trips to tall buildings and observation towers. To help children discover that maps are drawn to show only the tops of things, not the vertical features, children can build towers and trace the shape of each block in the tower. In teaching the fourth essential, the concept of scale, emphasis should be placed on how maps show things as they are, only smaller. The scales of distance should be left to older children. Photographs of children can be displayed noting that pictures are just like the student, only not as large. (Author/RM)

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ESSENTIAL MAP CONCEPTS FOR YOUNG CHILDREN

Paper presented at the

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ESSENTIAL MAP CONCEPTS FOR YOUNG CHILDREN

The resurgent interest in map and globe skills has caused teachers of young children to ask "Do maps and map reading have a place in the curriculum of the pre-school and primary child?" In the past, maps and map reading have been a neglected topic because teachers have been cautious and uncertain about the appropriate introduction of geographic skills to young children. Also Piaget's work has demonstrated the futility of early introduction of concepts beyond the grasp of young children and their prelogical thought pattern.

Jarolimek writes, however, "Social studies has a special responsibility to teach youngsters the skills of reading and interpreting globes and maps . . . the need for skills in the use of these tools has taken on additional importance in modern times" (1971, p. 427). Portugaly (1967) found that disadvantaged kindergarten children were able to develop skills necessary to work with maps. Robinson and Spodek (1965) also found that kindergarten children could relate a map to a geographic area and abstract information from map symbols. Lucy Sprague Mitchell, author of the classic, Young Geographers, included maps and map reading as an integral part of her

preschool program as early as the 1930's. Mitchell cautioned, however, that because maps are an abstraction, they should be introduced in correlation to the actual experiences of children (1934).

How then can preschool and primary teachers introduce maps and map reading skills in a meaningful way? First, it is necessary for teachers to examine four key concepts vital to the development of the ability to read and understand maps. These essential elements are 1) representation, 2) symbolization, 3) perspective, and 4) scale. Identification and comprehension of these concepts will enable the teacher to plan activities to help children begin to read and understand maps, and to recognize that many of the activities in the preschool-primary curriculum provide the foundation for map reading skills.

1. Representation

Representation is a key concept necessary to the understanding of maps and map reading. Children must perceive that a map represents something else--a place. This will not be a totally new concept as children have seen pictures and photographs of animals, places, and themselves, and can see that the picture represents the actual thing or place.

Block building provides an excellent opportunity for young children to develop an understanding of representation. By using non-thematic blocks, children can create with the

blocks, the entity of their choice. Long blocks can represent tall buildings, arched blocks may become bridges or freeway overpasses, and smaller units can become houses. Colored butcher paper may be used to represent water, roads, and other important features. Clay figures for people, animals, and land features add to the experience. By furnishing blocks and helping children select places to map from their immediate environment, the teacher is providing opportunities for children to discover the representational nature of maps.

Many commercial table-block and large block games have plastic maps displaying suggested arrangements of towns and cities for pupils to recreate. These can also be used to provide children with opportunities to explore the representational nature of maps.

2. Symbolization

Symbolization is an important concept to the reading and understanding of maps. Children need to know that a map is a symbol for a place; it uses other symbols such as colors for land and water, and lines for roads and highways.

The following activities may be used to increase understanding that a symbol represents a real or actual thing. "Lotto Match" can be played by pairing three-dimensional items to two-dimensional drawings of the same thing. The pictures on the lotto cards may be designed to become progressively more abstract once children understand that a symbol represents a real or actual thing.

Teachers can increase an understanding of symbolization by helping children write experience stories using pictures from magazines or pupil drawings to tell a part of the story. These will resemble rebus tales. The children will learn that the pictures in the experience stories stand for the item represented by the symbol.

The game "Symbo," played like bingo, (see illustration) can be used to have children designate the correct sign for a "river," "desert," "airport," "school," and other map legend symbols. Older children will enjoy comparing symbols from the legends of many maps. Opportunities to participate in these activities will enable children to discover that the symbol for the item represents or stands for the real thing.

3. Perspective

Perspective is difficult for young children. To be able to read and understand maps, children need to know that a map shows a place as if one is looking at it from above, or a bird's eye view. This is difficult to visualize unless children have many opportunities to actually observe objects from above. In fact, this concept may not be fully developed until later, but a foundation for future understanding can be provided.

Children should be given many opportunities to view objects from above by taking field trips to tall buildings and observation towers. Experiences that allow children to view things at various elevations in the neighborhood

and countryside are also useful. Even standing on a chair above a miniature town noting the differences between an elevated and non-elevated view will enable children to begin to develop an understanding of perspective.

Children also need to have opportunities to discover that maps are drawn to show only the top of things, not the vertical features. Let children build towers and trace the shape of each block in the tower. Shapes should be stacked one on top of the other. This should enable children to see two things. First, regardless of the height of the tower, the shape of the block on top remains the same; and second, maps show the top of buildings, not the vertical features.

4. Scale

The concept of scale is necessary for reading and understanding maps. Scale is used because it makes it easier to think about a place if it is reduced in size. Emphasis should be on how maps show things as they are, only smaller. The scale of distance should be left to older children.

To develop an understanding of scale, photographs of children can be displayed noting that pictures are just like the student, only not as large. Maps too are like the place they represent, only not as large. Scale model toys, doll furniture, and cars can be compared with actual items to reinforce the idea that the models are like the larger article, only a smaller version. By having samples of

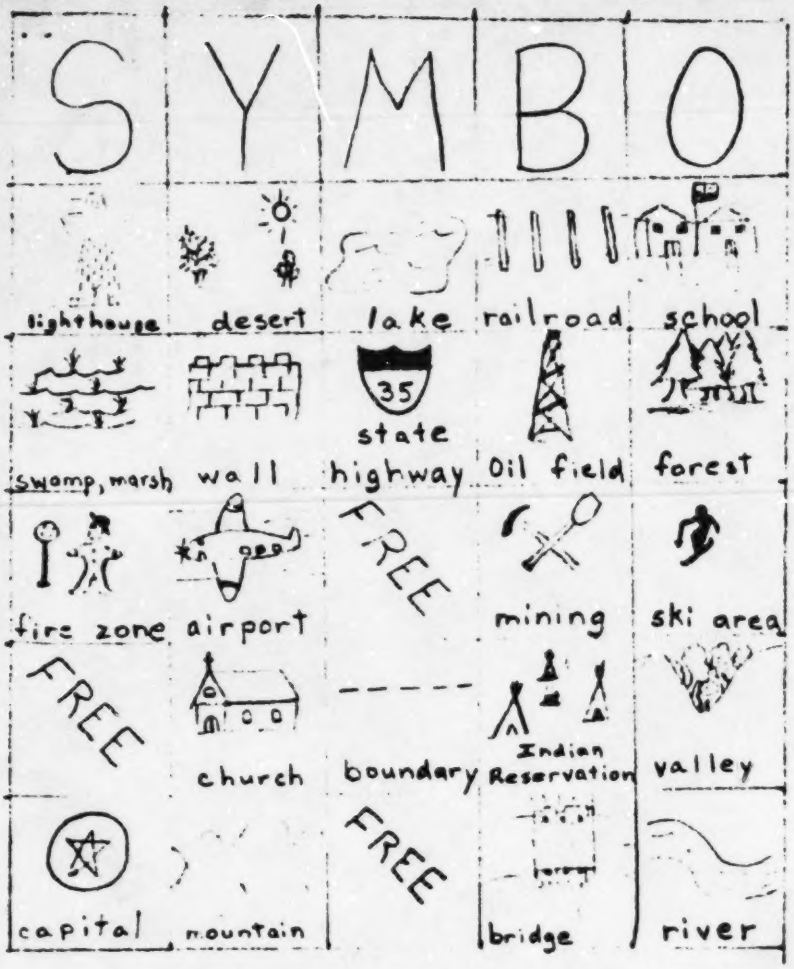
children's art work reduced in size at a copier or print shop, children will be able to compare their original work with a smaller scale version. Through these activities, children will begin to discover that maps are like the actual place, but they reduce the size of the place so it is easier to think about it.

As children develop an understanding of representation, symbolization, perspective, and scale, teachers will want to plan many opportunities for students to construct their own maps. Therefore, it is important to remember that all map construction should be on a continum from the concrete to the abstract.

Teachers should begin mapping activities by using three-dimensional miniature model houses, cars, trees, and buildings. Next construction should be with three-dimensional non-thematic items such as blocks and boxes. This should be followed with two-dimensional precut paper shapes, and the final stage of abstraction should be to map with lines drawn with paint, crayon, or pencil. Generally by grade three, children will be able to successfully understand line maps. It is important to remember that children should always begin to map places from their immediate environment and experiences such as the classroom, playground, and neighborhood.

Teachers of young children can provide many opportunities to increase pupil interest and proficiency in map reading and

construction. In fact, most of these activities and materials are already available in well-planned classrooms for young children. By ensuring a sound understanding of representation, symbolization, perspective, and scale, by integrating maps and map reading into the total cirriculum, and by providing materials and time for pupils to construct their own maps, teachers of young children can provide a foundation for a greater appreciation and understanding of the value and fundamentals of map reading.



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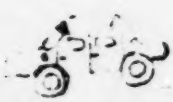
"Symbo," like bingo helps children learn map symbols in an enjoyable way.

Soap Crayons

7/8 cup Ivory Snow (Flakes)

1/8 cup water

40 drops food coloring



Sidewalk maps with soap crayons provide opportunities to practice mapping skills. For easy cleaning, use water and a broom.

Illustrations by Robbie Koenning

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